3-Dimensional (3D) manufacturing apparatuses for producing MOD items in accordance with embodiments.

[0025] FIG. **21** is a flow chart representing a process that can be executed by a system for providing designs for producing MOD items in accordance with embodiments.

[0026] FIG. **22** illustrates an example of a network page providing options for selecting design services, 3D manufacturing services, and/or design and 3D manufacturing services in accordance with embodiments.

[0027] FIG. **23** is a flow chart representing a process that can be executed by a system for providing an electronic marketplace in which providing a MOD item is one of multiple options for fulfilling an order for an item in accordance with embodiments.

[0028] FIG. **24** is a flow chart representing a process that can be executed by a system for providing an electronic marketplace in which ordering an item as a MOD item is an option on an item detail page in accordance with embodiments.

[0029] FIG. **25** is a flow chart representing a process that can be executed by a system providing an electronic marketplace in which ordering an item as a MOD item is a shipping option in accordance with embodiments.

[0030] FIG. **26** illustrates an example of a network page showing a shipping page for a purchased item showing a first delivery option not including manufacturing the purchased item based on 3D manufacturing instructions and a second delivery option including manufacturing the purchased item based on 3D manufacturing instructions in accordance with embodiments.

[0031] FIG. **27** is a flow chart representing a process that can be executed by a system for providing an electronic marketplace in which ordering an item as a MOD item is an option associated with a time and/or cost in accordance with embodiments.

[0032] FIG. **28** illustrates an example of a network page showing an item detail page for an item showing a first option associated with a first price, a first time of delivery, and a first delivery method not involving manufacturing the first item based on 3D manufacturing instructions and second option associated with a second price, a second time of delivery, and a second delivery method involving manufacturing the second item based on 3D manufacturing instructions in accordance with embodiments.

[0033] FIG. **29** illustrates an environment in which various embodiments can be implemented.

DETAILED DESCRIPTION

[0034] In the following description, various embodiments will be described. For purposes of explanation, specific configurations and details are set forth in order to provide a thorough understanding of the embodiments. However, it will also be apparent to one skilled in the art that the embodiments may be practiced without the specific details. Furthermore, well-known features may be omitted or simplified in order not to obscure the embodiment being described.

Introduction

[0035] Techniques described herein include systems for providing items manufactured on demand to users. For example, a user can submit an order for an item offered in an electronic marketplace and request that the item be manufactured on demand by a manufacturing apparatus, e.g., a three-dimensional (3D) manufacturing apparatus. As may be appreciated, the term "manufacture" connotes production of a physical object. A service provider system can receive the order and access instructions for manufacturing the item by a manufacturing apparatus. The service provider system may interact with one or more suppliers to obtain the manufacturing instructions. The service provider system can provide the manufacturing instructions to the user so that the user can make the ordered item using the user's own manufacturing apparatus. Alternatively, the service provider system can utilize the manufacturing instructions to make the ordered item using a manufacturing apparatus maintained by the service provider. The item made on the manufacturing apparatus maintained by the service provider can be delivered to the user or to a location for pick-up by the user based on instructions provided by the service provider system.

[0036] FIG. **1** shows an example system **100** for providing one or more Manufactured-On-Demand (MOD) items **110** to users **102** via computer systems **106** of a service provider **101**. A user **102** can submit an order **104** via computer systems **106** of the service provider **101**. The computer systems **106** of the service provider **101** can provide 3D manufacturing instructions **107** to have the ordered item manufactured by a 3D manufacturing apparatus **108** as a MOD item **110**. In some aspects, the 3D manufacturing apparatus **108** may include a 3D printer or some other on-demand 3D manufacturing apparatus(es) **108** described herein.

[0037] The 3D manufacturing apparatus **108** may utilize any manufacturing technique that can be used to produce a three-dimensional physical object based on the 3D manufacturing instructions **107**. Both additive and subtractive manufacturing processes can be utilized. For example, manufacturing techniques can include fused deposition modeling, electron beam freeform fabrication, direct metal laser sintering, electron beam melting, selective laser melting, selective heat sintering, selective laser sintering, laminated object manufacturing, stereo lithography, digital light processing, and any 3D printing, including plaster-based, powder bed, and inkjet head 3D printing. Manufacturing techniques may also include automation of machine tools based on a digital model such as in computer numerical control (or CNC) techniques.

[0038] The 3D manufacturing instructions **107** can include any type of data and/or instructions that can be used by a 3D manufacturing apparatus **108** to make an item. The 3D manufacturing instructions **107** can include any data or instructions utilized in producing a physical object based on a digital model or data of the object. In one example, 3D manufacturing instructions **107** may include combinations of dimensions, tolerances, and/or other part specifications that sufficiently describe the attributes of an item such that the item can be physically produced by a 3D manufacturing apparatus **108**. In another example, 3D manufacturing instructions **107** may include digital models such as may be provided by Computer-Aided-Design (CAD) files or files for computer modeling programs. In another example, 3D manufacturing instructions **107** may include files in STL, PLY, or VRML formats, to name a few. In another example, 3D manufacturing instructions **107** may also include files representing cross sections of digital models referenced for building physical models one layer at a time. In another example, 3D manufacturing instructions **107** may also include executable code providing specific sequential instructions for controlling a 3D manufacturing apparatus **108** to produce a physical object.